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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/318,684	05/25/1999	ERIC C. HANNAH	INTL-0202-US	1769

7590

09/24/2003

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EXAMINER

STULBERGER, CAS P

ART UNIT

PAPER NUMBER

2132

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/318,684

Applicant(s)

HANNAH ET AL.

Examiner

Cas Stulberger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05/25/1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This action is responsive to communications: application, filed 5/25/99; amendment filed 7/11/03.
2. Claims 1-30 are pending in the case. Claims 1, 11, 22, and 29 are independent claims.

***Response to Amendment***

3. Applicant argues that “Lownes does not disclose, at least, a digital graphics bus coupled to a receiver in a first housing and a display in a second housing. In this regard, Lownes shows only a bus traveling between VHS 113 and set top box 90.” Lownes discloses that “the digital VCR receives and provides digital television signals” (Lownes: column 2, lines 59-60). Figure 1B of Lownes also discloses an IEEE 1394 bus (a digital graphics bus) coupled to the DVHS and the set stop box. This meets the limitations of “a digital graphics bus coupled to a receiver in a first housing and a display in a second housing.”
4. Applicant also argues that “Lownes nowhere discloses that the first housing is part of a modular platform adapted to receive replaceable cards.” Video Cassette Recorders or VCR are able to take a cassette tape (replaceable card) and perform other various functions such as play, fast forward, rewind, eject, etc. This meets the limitation of “adapted to receive replaceable cards.”
5. Applicant also argues that “Lownes does not disclose a housing including a plurality of slots each including a plug adapted to removably receive a card.” It is also known that VCRs are

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able to accept more than one cassette by having a plurality of slots. It is also possible to remove the VHS tapes by pressing the eject button. This meets the limitations of “a housing including a plurality of slots each including a plug adapted to removably receive a card.”

6. Applicant has amended claims 11, 20, and 21 to cite the limitation “said encryption engine to provide two different levels of encryption.” In response examiner has utilized the Bennett reference to meet the limitation of “a higher level of encryption”. See rejection below.

7. Applicant also argues that “there is no motivation to combine Lownes or Tsukamoto with Bennett, which relates to feedback and shift units, and not digital television systems.” The motivation to combine the reference of Bennett with the reference of Lownes and Tsukamoto is (as repeated below) a feedback and shift unit is arranged to reduce to a minimum the number of processing steps required in a processor (Bennett: Abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the digital television system of Lownes with the linear feedback shift registers and tap registers of Bennett in order to reduce to a minimum the number of processing steps required in a processor (Bennett: Abstract).

8. Applicant also argues that “there is no motivation to combine the references in order to obtain the claimed subject matter. The motivation to combine Lownes with Tsukamoto is repeated below.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the digital television system as disclosed in Lownes with the method of encrypting, transmitting, decrypting, and displaying data across a bus as disclosed by Tsukamoto in order to provide for secure transmission of video data among devices connected to a video data bus.

The motivation to combine Lownes and Tsukamoto with Bennett is repeated below.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the digital television system of Lownes with the linear feedback shift registers and tap registers of Bennett in order to reduce to a minimum the number of processing steps required in a processor (Bennett: Abstract).

The motivation to combine Lownes and Tsukamoto and Bennett with Warren is repeated below.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the encryption method as disclosed in Lownes with the method of changing the key as disclosed in Warren in order to provide for electronic copy management of various forms of multi-media (Warren: column 1, lines 8-10).

9. In view of the rejections and response to arguments above, the prior art rejections are maintained. The grounds of rejection as set forth in the previous office action is reproduced below.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

11. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

12. Claims 1-3, 5-10, 22-23, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,137,539 to Lownes et al.

In regards to claims 1, Lownes discloses the DVHS VCR receives the digital television signal (Lownes: column 2, lines 59-62). This meets the limitation of “a receiver, adapted to receive a digital television signal, in said first housing.” The VCR then transmits the MPEG-2 transport stream to the STB via an IEEE 1394 bus (Lownes: column 3, lines 62-67). This meets the limitation of “a digital graphics bus coupling said receiver in said first housing and said display in said second housing, and cards coupled by a bus.” The STB is connected to the

display (Lownes: Figure 1A). This meets the limitation of “a digital television display in said second housing.” Lownes also discloses a CPU (Lownes: Figure 1A). This meets the limitation of “wherein one of said cards is a motherboard including a processor.” A remote control receiver is also disclosed which may receive infrared commands from a remote control unit (Lownes: Figure 1A, column 4, lines 19-21). This meets the limitation of “wherein said platform includes a processor and an infrared interface.” The other input port of the multiplexer is coupled to receive an encoded transport stream from a digital television tuner (Lownes: column 4, lines 8-10). This meets the limitation of a “television tuner/capture card.”

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,137,539 to Lownes et al. in view of U.S. Patent No. 5,699,426 to Tsukamoto et al.

Lownes does not however disclose the bus coupled to an encryption and decryption engine so that traffic across said bus may be encrypted.

Tsukamoto discloses broadcast digital video data signals are received by receiver, encrypted, and transmitted to data bus for receipt by a peripheral device which decrypts the signals and displays the decrypted data (Tsukamoto: column 13, lines 52-55).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the digital television system as disclosed in Lownes with the method of encrypting, transmitting, decrypting, and displaying data across a bus as disclosed by Tsukamoto in order to provide for secure transmission of video data among devices connected to a video data bus.

15. Claims 11, 13, 15-21 25, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,137,539 to Lownes et al. in view U.S. Patent No. 5,699,426 to Tsukamoto et al. as applied to claim 4 above, and further in view of U.S. Patent No. 5,784,427 to Bennett et al.

Lownes however does not disclose encryption and decryption using linear feedback shift registers and programmable tap registers or using a higher level of encryption.

Bennett discloses a linear feedback shift register for storing the value of the feedback and shift unit. A tap register stores a tap position indicator indicative of tap positions for the feedback and shift unit (Bennett: Abstract). Bennett discloses a tap register and combinatorial logic (Bennett: Figure 3). Bennett also discloses a memory device in figure 11. This meets the limitations of "tap register, combinatorial logic, and tap memory; linear feedback shift registers." An input sequence is injected into the shift register from an input register (Bennett: Figure 3; column 4, lines 5-7). This meets the limitation of "a combiner adapted to combine a seed signal together with feedback from said programmable tap register to create an input signal to said linear feedback shift register." Bennett also discloses a majority mask register which identifies bits that must be logically combined (Bennett: column 5, lines 54-56). The corresponding bits of



a shift register and a majority mask register are logically combined in an exclusive or logic block (Bennett: column 5, lines 66-67). This meets the limitation of "a high level of encryption." The tap register are programmable to allow the tap positions to be re-defined at any time (Bennett: column 5, lines 56-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the digital television system of Lownes with the linear feedback shift registers and tap registers of Bennett in order to reduce to a minimum the number of processing steps required in a processor (Bennett: Abstract).

16. Claims 14, 27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,137,539 to Lownes et al. in view of U.S. Patent No. 5,699,426 to Tsukamoto et al. in view of U.S. Patent No. 5,784,427 to Bennett et al as applied to claims 12-13, 15-19, 25-26, and 29 above, and further in view of U.S. Patent No. 5,969,909 to Warren et al.

Lownes however does not disclose the encryption is changed on the frame boundaries.

Warren discloses that with encrypted frames of multi-media data, encryption keys may be carried in a key layer with the encrypted data signal or another data signal for use in decryption on a frame-by-frame basis (Warren: Abstract, last line; Figure 12). Warren also discloses that each frame can be scrambled with a different key, or the key can change every so many frames (Warren: column 14, lines 7-9)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the encryption method as disclosed in Lownes with the method

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of changing the key as disclosed in Warren in order to provide for electronic copy management of various forms of multi-media (Warren: column 1, lines 8-10).

*Conclusion*

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cas Stulberger whose telephone number is (703) 305-8034. None. The examiner can normally be reached on Monday - Friday, 9:00A.M. - 5:00P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (703) 305-1830. The fax phone numbers for the

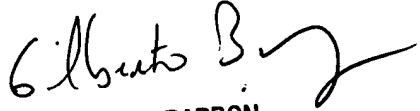
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organization where this application or proceeding is assigned are (703) 746-7239 for regular communications, (703) 746-7240 for drafts, and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

CS

CS  
September 22, 2003

  
GILBERTO BARRON  
SUPERVISORY PATENT EXAMINER  
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